

APRIL/MAY 2023

**DECH34A — SCIENTIFIC RESEARCH
METHODOLOGY**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is the importance of research?
2. Define scientific method of research.
3. Define extraction.
4. What is the role of reduced pressure in distillation process.
5. Define precision.
6. What do you mean by normal distribution curve?
7. What is meant by Q-test?
8. Mention two criteria for rejection of an observation.
9. What is meant by proof reading?
10. Give two examples of commonly used abbreviations.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Write a note on aims and objectives of research.

Or

- (b) Explain in detail about citation index of journals.

12. (a) Sketch and explain the Soxhlet extraction process with neat diagram.

Or

- (b) Explain in detail about vacuum sublimation and distillation.

13. (a) In detail explain about distribution of random errors.

Or

- (b) Write detailed a note on accuracy.

14. (a) Write a note on statistical treatment of finite sample.

Or

- (b) Explain in detail about least square analysis.

15. (a) Describe the importance of tables and figures in thesis.

Or

- (b) How will you edit and evaluate the final product of the thesis?

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Discuss the following:

(a) Survey of Scientific literature

(b) Patents

17. What are hazardous materials? Explain the precaution measures followed while working with corrosive, explosive and radio active materials.

18. Discuss the following:

(a) Reliability

(b) Determinate and random errors.

19. Elaborately discuss about significant figures and computational rules.

20. Write an detailed account on thesis writing.